

transmitting from said communications processor to the financial transaction device said [received] converted signals indicative of the authorization or denial of [a] the financial transaction using the phone line interface.

Please add the following new claim.

-- 60. The system of claim 13 wherein said wireless adaptor includes an audio frequency modem to convert said financial signals from said first signal format to digital signals and a processor to process said digital signals to said second signal format for transmission by said first wireless modem, said processor also processing said authorization signals in said second signal format to digital signals for conversion to said first signal format by said audio frequency modem. --

REMARKS

Claims 13-49 and 60 are now present in this case. Claims 1-12 and 50-59, which were directed to non-elected claims, are canceled. Claims 13, 28, and 43 are amended. New claim 60 is added.

In an Office Action dated July 17, 1996, the Examiner rejected claims 13-15, 20, 28-30, 43-45, 48, and 49 under 35 U.S.C. § 103 as unpatentable over the combination of U.S. Patent No. 5,500,890, to Rogge et al., and U.S. Patent No. 4,665,396, to Dieleman. Rogge et al. is directed to a multi-threaded transaction processing system. The invention described in Rogge et al. permits multiple terminals to be coupled through a single access line to a host computer. It should be noted that the conventional financial transaction terminal is designed for operation over a telephone line. In a typical single terminal store, such as a retail outlet, the financial transaction terminal is coupled to a host computer via a dedicated telephone line or a dial up telephone line. In either case, the data transfer occurs over a telephone line using conventional modem technology and audio frequency signals. Rogge et al. addresses the problem of multiple terminals that would typically require a separate telephone line connecting each terminal to the host computer. (See column 1, lines 42-46.) If only one telephone line is available in a multi-terminal store, one terminal must complete its

transaction prior to the initiation of a transaction by another terminal. Thus, while only one telephone line is required, transaction processing is significantly slowed. Rogge et al. solves this problem by permitting the interleaving of multiple transactions between a controller 24 and a host computer 29. (See Figure 1.)

In Rogge et al. a single-terminal store 36 is coupled to the host computer via a conventional telephone line 45. (See column 7, lines 15-19.) The system of Rogge et al. permits interleaved communication so that transaction requests may be processed in a direction from the terminal to the host computer while responses from the host computer are interleaved and transmitted back to the terminal. In this manner, a financial transaction does not need to be completed on one terminal prior to the initiation of a financial transaction on a second terminal.

The terminals 12, 14, and 16, shown in Figure 1 of Rogge et al., are not conventional financial transaction terminals. Rather, they are data processing terminals connected to the controller 24 via a network 22. As stated in Rogge et al., the individual terminals may be connected to the controller by a standard networking technology. (See column 5, lines 43-49.) The controller 24 is coupled to the host computer 29 via a direct access telephone line 30. Thus, Rogge et al. provides a solution for connecting multiple non-conventional terminals to a single telephone line capable of connection to the host computer via a public switched terminal network (PSTN). As stated by the Examiner, Rogge et al. shows the communication channel to be a PSTN line.

The Examiner cites Dieleman as showing the equivalence of wireless communications media in a conductor or fiber for a communication system. The applicants respectfully disagree with the Examiner's assessment of Dieleman and the suggested combination of Dieleman with Rogge et al. Dieleman is directed to a cryptographically secured technique for validating an external station. Messages are sent between an access station and the external terminal using encryption keys to validate the identity of the external station. Dieleman describes a proprietary technology for encoding and transmitting these validation messages. Dieleman states that the encrypted data may be transferred between the station and the access terminal by conductor, fiber or wireless medium. (See column 3, lines 21-24.) However, those of skill in the art will recognize that any signal may be

A transmitted by conductor, fiber or wireless medium. The present invention is not directed merely to a choice of wireless transmission medium.

→ The combination of references cited by the Examiner does not result in the claimed invention, nor even address the problems solved by the present invention. The present invention provides a technique for adapting conventional financial transaction devices for use with a wireless modem, which is not PSTN compatible. As discussed above, the conventional financial transaction device is coupled to a telephone line and communicates with a host computer via the telephone line. To use the telephone line, data transmitted between the financial transaction terminal and the host computer utilize a standard set of audio tones. In addition, the data transferred on the telephone line uses standard operating voltages for a public switched telephone network.

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/ In contrast, a wireless modem is essentially a radio transceiver for transmitting and receiving digital data. It should be noted that the wireless modem is not PSTN compatible. Thus, the present invention is directed to a system for adapting a conventional financial transaction terminal, which is PSTN compatible, for use in a wireless transaction system using wireless modems that are not PSTN compatible. It is clear that the combination of Rogge et al. and Dieleman does not suggest a solution for adapting conventional financial transaction terminals for use in a wireless modem system. Indeed, Rogge et al. teaches away from the present invention by providing a technique for combining non-conventional financial transaction terminals for use over a single telephone line. Thus, Rogge et al. appears to solve the exact opposite problem, that is, adapting non-standard point of sale terminals for operation in a PSTN compatible system. Dieleman does not even address the concept of financial transaction authorization using PSTN compatible terminals. Indeed, Dieleman is directed to data encryption rather than any particular form of transmission. The combination of Rogge et al. and Dieleman results in a system in which remote terminals are cryptographically validated and in which the encrypted data from multiple remote terminals is interleaved for transmission to a host computer using a format compatible with the PSTN. The combination of Dieleman and Rogge et al. clearly would not result in the present invention because there is no conversion of PSTN compatible data from financial transaction devices to data compatible with a wireless modem.

Claim 13 of the present invention recites "a financial transaction device compatible with a public switched telephone system and which transmits financial signals indicative of a financial transaction and receives authorization signals indicative of the authorization or denial of said financial transaction, said signals transmitted and received by said financial transaction device having a first signal format compatible with said public switched telephone system." In addition, claim 13 recites "a wireless adaptor coupled to said financial transaction device to receive said financial signals from said financial transaction device in said first signal format and to convert said financial signals from said first signal format to a second signal format different from said first signal format and incompatible with said public switched telephone system, said wireless adaptor also converting said authorization signals from said second format to said first format and transmitting said authorization signals in said first format to said financial transaction device." Claim 13 also recites "a first wireless modem coupled to said wireless adaptor to communicate with said wireless adaptor using said second signal format." Claim 13 also includes a second wireless modem and a wireless transmission system for transmitting signals between the first and second wireless modems.

The present invention advantageously provides a wireless financial transaction system capable of operation with conventional financial transaction terminals. It should be noted that the financial transaction terminal does not need to be modified for operation with the present invention. As stated above, the combination of references cited by the Examiner does not even suggest the problem encountered in adapting conventional financial transaction devices for operation with a wireless modem. Furthermore, the combination of references do not suggest the solution recited in claim 13 of converting signals from a PSTN format to a second format that is not PSTN compatible. Therefore, it is believed that claim 13 is allowable over Rogge et al. and Dieleman. Claims 14, 15, and 20 are also believed allowable in view of the fact that they depend from claim 13, and further in view of the recitation in each of the claims.

Independent claims 28 and 43 also recite a financial transaction system and method, respectively, similar in scope to the system discussed above with respect to claim 13. For the sake of brevity, those arguments will not be repeated herein. However, it is clear that the references combined by the Examiner do not suggest a system for adapting a PSTN compatible financial transaction device for operation with a non-PSTN compatible wireless

modem. For the reasons discussed above with respect to claim 13, it is believed that claims 28 and 43 are allowable over Rogge et al. and Dieleman. Claims 29 and 30 are also believed allowable in view of the fact that they depend from claim 28, and further in view of the recitation in each of those claims. Similarly, claims 44, 45, 48, and 49 are believed allowable in view of the fact that they depend from claim 43, and further in view of the recitation in each claim.

Claims 16-27, 31-42, 46, and 47 stand rejected under 35 U.S.C. § 103 as unpatentable over Rogge et al. and Dieleman and further in view of "common knowledge in the art." The applicants respectfully traverse this rejection. While certain types of financial transaction devices and communication techniques per se may be known in the art, what is not known in the art, nor even suggested by the combination of references cited by the Examiner, is a financial transaction system in which a financial transaction device generating PSTN compatible data is coupled to a wireless adaptor to convert the PSTN compatible data to a second format compatible with a wireless modem. Claims 16-27 recite additional limitations on the type of financial transaction device generating the PSTN compatible data as well as further restrictions on the communications means coupling the second modem to the host computer and authorization processor. Claims 16-27 are believed allowable in view of the fact that they depend from claim 13, and further in view of the recitation in each claim.

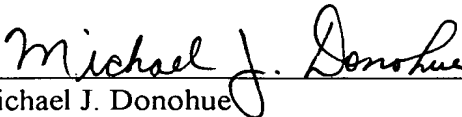
Similarly, claims 31-42 recite elements similar to those discussed above with respect to claims 16-27 and are believed allowable for the same reasons discussed above. Claims 31-42 are believed allowable in view of the fact that they depend from claim 28, and further in view of the recitation in each claim. Claims 46 and 47 are also believed allowable in view of the fact that they depend from claim 43 and further in view of the recitation in each of those claims.

In view of the above amendments and remarks, reconsideration of the subject application and its allowance are requested. If any questions remain regarding the present application, the Examiner is invited to contact the undersigned at (206) 622-4900.

Respectfully submitted,

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Enclosures:

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Check No. 44407 for \$55
Form PTO-1083 (+ copy)
Request to Amend Attorney Docket Number
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